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An Evaluation of the Critical Success Factors in Sustainable Food Supply Chains in Developing Countries

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Abstract

Food is one of the biggest industries in developed and underdeveloped countries. Supply chain sustainability is essential in established and emerging economies because of the rising acceptance of cost-based outsourcing and the growing technological, social, and environmental concerns. The food business faces serious sustainability and growth challenges in developing countries. A comprehensive analysis of the critical success factors (CSFs) influencing the performance outcome and the sustainable supply chain management (SSCM) process. A theoretical framework is established to explain how they are used to examine the organizational aspect of the food supply chain life cycle analysis. This study examined the CSFs and revealed the relationships between them using a methodology that included a review of literature, interpretative structural modeling (ISM), and cross-impact matrix multiplication applied in classification (MICMAC) tool analysis of soil liquefaction factors. The findings of this research demonstrate that the quality and safety of food are important factors and have a direct effect on other factors. To make sustainable food supply chain management more adequate, legislators, managers, and experts need to pay attention to this factor. In this work. It also shows that companies aiming to create a sustainable business model must make sustainability a fundamental tenet of their organization. Practitioners and managers may devise effective long-term plans for establishing a sustainable food supply chain utilizing the recommended methodology.

Keywords

Supply Chain Collaboration, Interpretative Structural Modeling, Cross-Impact Matrix Multiplication, Sustainability, Critical Success Factors,

Multi-Criteria Decision Making, Technique for Order of Preference by Similarity to Idea Solution

1. Introduction

Particularly in the industrial and retail sectors, supply chain management (SCM) has entered the c-management agenda in Western nations since the 1990s [1]. Lately, the agri-food sector in both developed and developing nations has shown an increasing interest in supply chain management. Leaders in the agri-food industry understand that their ability to compete will depend on how well they coordinate, integrate, and manage critical business operations throughout the supply chain. As stakeholders are increasingly aware of how corporate actions affect the environment and society, sustainability is becoming more and more important in supply chain research. Businesses are giving sustainable supply chain management (SSCM) their whole focus [2]. Scholars and practitioners have given SSCM, a wide term, a lot of attention [3]. In today's corporate climate, achieving sustainability and finding maintaining a balance between environmental protection, social responsibility, and economic prosperity is just as crucial as slashing costs to increase profits. The objective of achieving sustainability is what motivates these components [4] [5]. Food is one of the largest and most significant economic sectors in both industrialized and underdeveloped nations. The Sustainable Food Supply Chain (SFSC) framework is proposed as a solution to these inefficiencies. It involves redesigning the FSC and implementing practices that increase resource and operational efficiency, with an emphasis on enhancing environmental sustainability and, where feasible, identifying economic and social benefits. Sustainable supply chain management, or SSCM, has garnered a lot of interest from researchers and industry professionals in recent years [6].

The efficiency of food production and distribution has increased significantly in order to keep pace with the growing demand for the goods. In every industry and domain, industries worldwide are required to practice sustainable development. Enterprises worldwide are making concerted efforts to reduce their environmental impact; nevertheless, this is challenging to do without achieving equilibrium among the environment, society, and economics. In food supply chains (FSCs), the sustainability problem is much more formidable. The biggest issue facing mankind by 2050 will be feeding a 10-billion-person world population sustainably. Approximately one-third of the world's food supply is lost or squandered at this time [7]. The issue of guaranteeing a sustainable food supply is now one that the manufacturing and industrial sectors must deal with. In order to maintain the safety and quality of different foods, cooperation is currently crucial across the food supply chain, from manufacturing to consumption. Because the food industry meets the requirements for such a dynamic business environment, it was chosen as the focus of research [8]. Keeping the goals of the

economic, environmental, and social facets of sustainable development in mind while you manage the movement of money, information, and commodities throughout the supply chain is known as sustainable supply chain management. These specifications come from stakeholder and consumer demands [9] [10]. These are known as critical success factors. Several researchers looked at the critical success factors of sustainable supply chain management adoption and found a number of important elements that affect how these practices are implemented. Researchers' findings of critical success factors may generally be divided into two categories: internal and external causes. In light of the foregoing discussion, the purpose of this research is to ascertain the CSFs and create a model that takes into account various elements from the viewpoints of "technology, organization, human, and environment (institution)" in order to guide social media adoption and use by logistics supply chain, social sustainability in Bangladesh, a developing nation. This study uses expert opinions and the body of current literature to determine the critical success factors for sustainable supply chain management adoption in the food industry of Bangladesh. Since the food and beverage industry is the largest industrial sector in Bangladesh and has a significant potential influence on the environment, the Aftab Food and Beverage Industry provides our study with an interesting empirical framework. The purpose of this research is to become more knowledgeable about the key SSCM techniques and components applied in the food industry, as well as any potential connections between them and sustainable performance. Two approaches were used in order to bolster the goal of this study. After determining which CSFs in the Bangladeshi food industry should be given priority for sustainability, we looked into the contextual connections between the critical success factors using the Smart Interpretative structural modeling program for Cross-impact matrix multiplication. Since the critical success factors decisions determine the link between the aspects, Interpretative structural modeling is a systemic interpretative technique that may be utilized to identify contextual relationships.

2. Literature Review

Food security and safety are related to each other, and this has a significant impact on human existence. Numerous outside influences have an impact on food security and safety. Food safety is a large topic with several subtopics, such as handling, storing, and preparing food to minimize food waste [11]. In many industrialized and emerging nations, the food industry is the major manufacturing sector [12]. An increasing amount of natural resources are utilized due to the population's driving need for food goods, which is always rising. This has an influence on agricultural productivity as well as leads to inefficient procedures and non-sustainable methods of depleting natural resources. Sustainable Food Supply Chain Management (SFSCM) is still a problem globally even when effective food production and delivery techniques are known [13]. When environ-

mental effect is quantified, all resource allocation and associated environmental impact are thoroughly analyzed. By offering several approaches, this metric helps decision-makers [14]. The sustainable supply chain management is defined as "the management of material, information, and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, *i.e.*, economic, environmental, and social, into account that are derived from customer and stakeholder requirements," according to the definition. Many things stand out in this term. First and foremost, it expressly seeks the involvement of the chain's partners [9]. Any excellent economic performance combined with good social and environmental performance promotes improved sustainability; nevertheless, the most sustainable supply chain is produced when all three performances are good [15]. Supply chain management refers to "the management of material, information, and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, such as economic, environmental, and social, into account that derive from customer and stakeholder requirements". An improved version of the definition provided by sustainable supply chain management is defined as "the strategic, transparent integration and achievement of an organization's social, environmental, and economic goals in the systematic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and the supply chain" [16]. In this paper, the package design will be chosen in accordance with these three aspects of sustainable development [17]. There are no universal standards for the metrics used to assess SSCM processes and associated sustainable performance outcomes in organizations. Organizations able to utilize the most frequently reported SSCM practices and performance measures for investigation [18]. Research has shown that one of the major difficulties of the past few decades is sustainability. The authors of this paper examined many multi-criteria decision-making (MCDM) models used in the field of sustainable engineering. Sustainable supply chain management (SSCM) integrates the economic, social, and environmental elements of the supply chain to enhance performance over the long run [19]. In view of the current situation in the market, there are a substantial number of obstacles that are compelling the revision of the existing food supply chains. Nevertheless, to keep up with the ever-increasing competition on a worldwide scale, it is necessary to locate the appropriate channels in which to spend one's time and money. Because of this, it is critical to have a thorough grasp of all the aspects that make up sustainable food supply chain management (SFSCM). The research evaluates the relationship that companies operating in the food supply chain may have with consumer purchases and the importance that society attaches to eco-friendly business practices. Following an initial evaluation of the relevant literature and using an exploratory research approach, qualitative research was carried out with the purpose of bridging the research gaps that were found in this field.

Critical Success Factors (CSFs) of SSCM (Table 1)

Table 1. Study on critical success factors for Sustainable Food Supply Chain Management (SFSCM).

SL No.	Critical Success Factors (CSFs)	Description	Reference
01	Sustainable Procurement Policy	A sustainable procurement policy exists to direct businesses toward the accomplishment of their financial, social, and environmental objectives.	[20]
02	Well Defined Metrics for Sustainability Tracking	It helps to track the amount of usage they are reducing. Basically, this is an example of economic output. An energy company uses and how measures a company uses to produce metric energy sustainability to a certain level.	[20]
03	Tax Reliefs of Certified Companies/Financial Benefits	"Tax relief" means any action taken by the government to lessen tax burdens. Credits, limitations, and deductions and thresholds for tax-free allowances are all examples. The goal of any tax break is to ease the financial burden, whether that be for businesses or individuals.	[21]
04	Business Ethics	Corporate ethics refers to standards of morally acceptable and immoral behavior in the business world. Law defines action in part, even though "legal" and "ethical" do not necessarily mean the same thing. Business ethics make the law stronger by providing guidelines for proper conduct outside the jurisdiction of the state.	[22]
05	Training and Capacity Building	Capacity development is the method of enhancing the knowledge, intuition, aptitude, procedures, and assets that communities and organizations require in order to endure, adjust, and prosper in a world that is changing quickly.	[23]
06	Enhancement of the Company Image	It is the most important asset for a company. It not only influences the attitude of customers but also the attitude of employees, media, analysts, etc. It helps move a company forward.	[24]
07	Collaboration with Multi-tier Suppliers	Increasingly, multi-tier supply chains are being used as a major strategic tool to save expenses, free up cash, and launch goods faster than the competitors.	[25]
08	Good Return on Investment	One popular way to evaluate a project's financial success is by calculating its ROI, or return on investment.	[26]
09	Contribution To Profit and Resource	This metric shows the product's value in terms of the company's bottom line. It is the demonstrator's possibility of making a profit off of a product or service, as well as how much of a contribution revenue makes toward covering fixed expenses.	[20]
10	Business to Business Pressure	The effect of major changes that take place in a corporate environment is known as business pressure. Separated into three types of business pressures: technological pressure, market pressure, and social/political/legal pressure.	[27]
11	Safe and Quality Food	Hazard Analysis and Critical Control Point (HACCP) guidelines serve as the foundation for Safe and Quality Food (QF) standards. These recommendations concentrate on identifying and mitigating risks related to food safety. Furthermore, SQF integrates the guidelines found in international standards, ISO 9001 standards, and quality management system (QMS) criteria.	[28]
12	Lack of Information and Transparency	In order to keep or recover the public confidence, most crisis communication specialists think that honesty is paramount. A company's or brand's reputation may take a serious turn if its practices are not open to public scrutiny.	[29]
13	Eliminate the Duplication	Data linked with two or more similar items are merged in a process known as duplicate elimination. Items' data content must match precisely for them to be considered similar.	[30]
14	Resource Savings	Interpretations have been made regarding the system of resource-saving control's complexity and rationality for creating an effective organizational economic resource-saving mechanism.	[20]
15	Quality Variation	Any error committed throughout the whole process, from the receipt of raw materials to the packed end product, might result in a change in quality. The more material used and the more intricate the procedure, the higher the chance of mistake.	(Expert Opinion)

3. Methodology

To achieve the objectives, we adopted a systematic research methodology. There are three phases to the planned research project: The identification of CSFs in the first step involved a thorough assessment of the literature, and it was decided upon following many discussions with subject matter experts. In the second phase, collecting expert opinions, the CSFs prioritized the basis of individual weight and used SMART-ISM software. And also used to TOPSIS method in the third phase for the evaluation of these results.

3.1. Flow Diagram of Present Work (Figure 1)

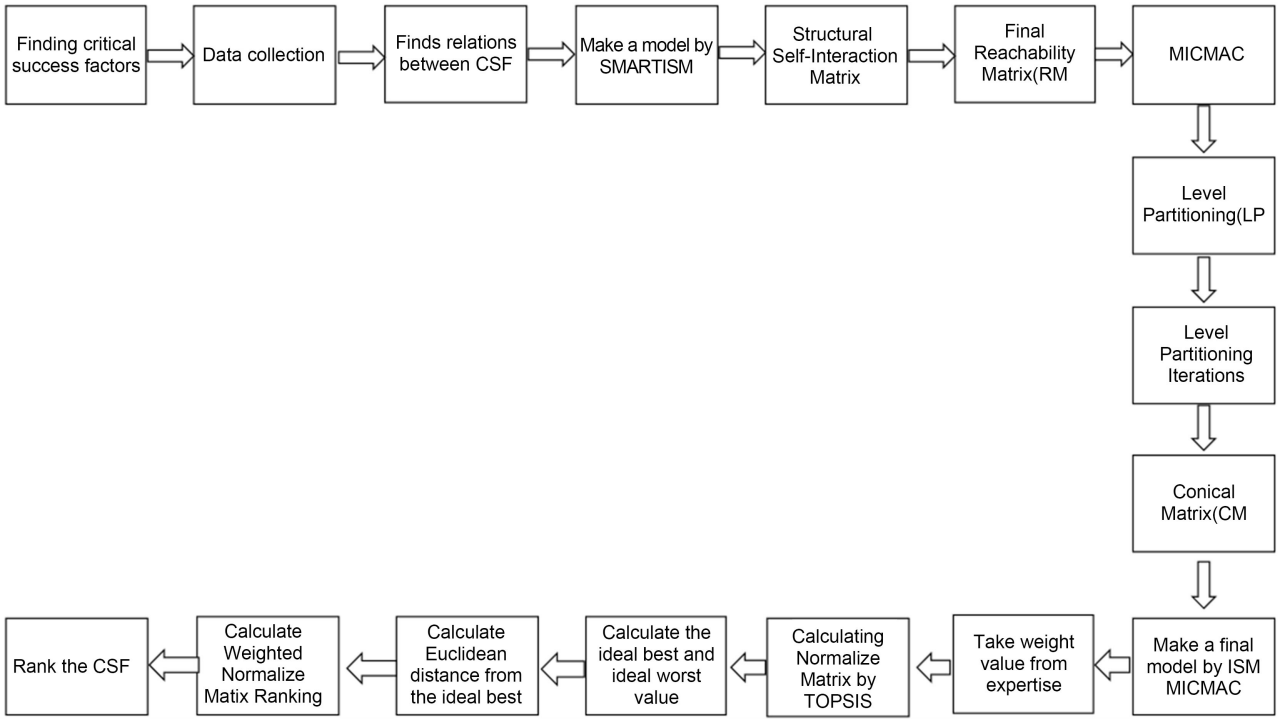

Figure 1. Flow diagram of present work.

3.2. Critical Success Factors in ISM-MICMAC

In this research methodology, we conducted a research paper review during the preparatory stage using the following primary terms: "drivers for supply chain sustainability," "critical success factors of sustainable supply chain adoption," "critical success factors in sustainable supply chain," and "Studied and analyzed the factors that influence a sustainable supply chain". This process has started with the finding of critical success factors and ended with the ranking of critical success factors, as shown in **Figure 1**. Reviewing the academic and corporate critical success factors led to the identification of 15 critical success factors, which are listed in **Figure 2**. By taking into account the opinions of both academics and experts in company management, critical success factors have been modified for application in the Bangladeshi food industry.

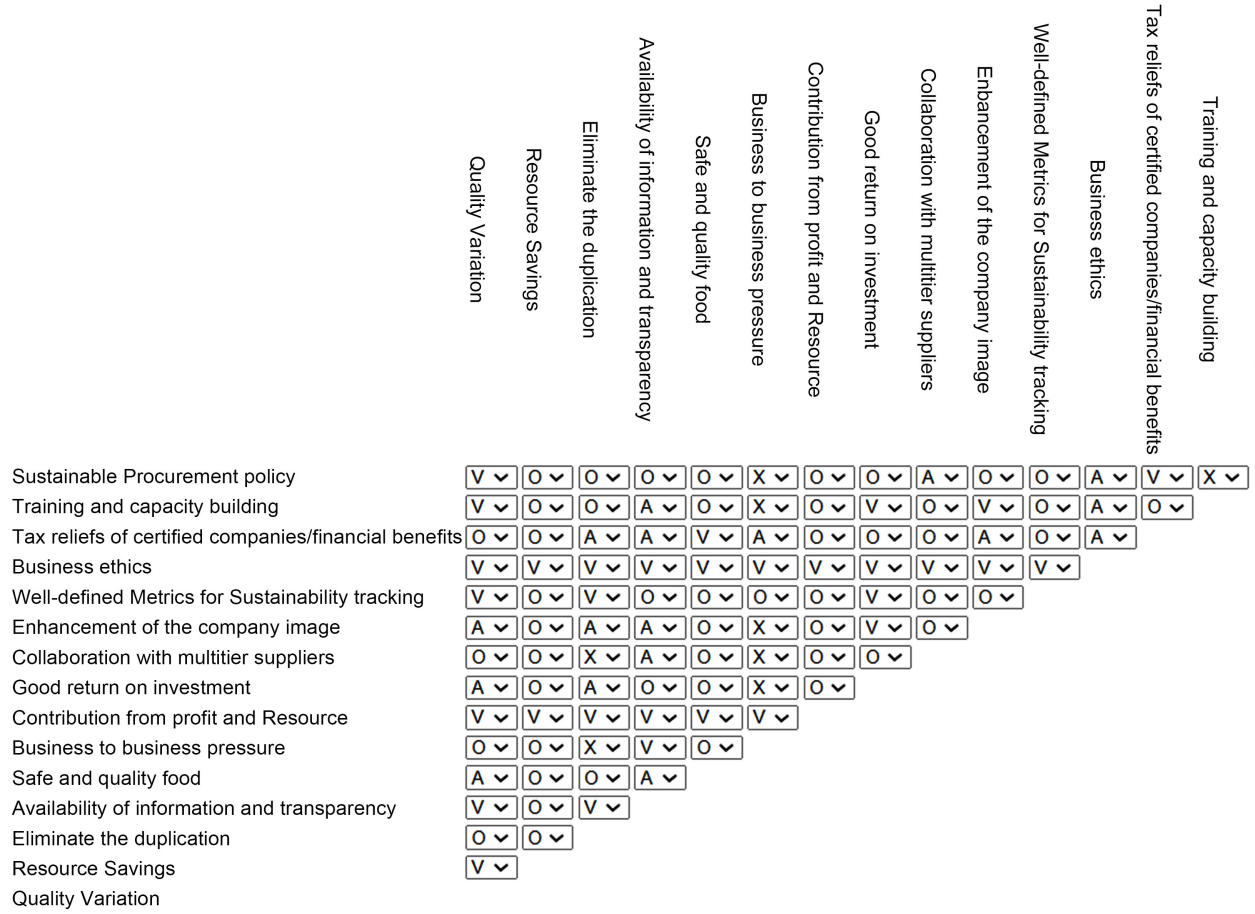

Figure 2. Smart interpretive structural modeling.

After collecting expert opinions from the different food industries in Bangladesh, the critical success factors prioritized the basis of individual weight and used Smart Interpretative structural modeling software. The interpretative structural modeling is a systemic tool; this tool can be used to discover contextual links and it is also a structural method that derives its foundation from the intricate web of connections. In a digraph model, the individual connections and overall structure are shown. It helps to impose direction and order on complex relationships, which is beneficial.

Step I:

Path of the partnership between two critical success factors (e.g., I and j) was figured out using the following four symbols:

- V-CSF: I facilitates j.
- A-CSF: j facilitates i.
- X-CSF: i and j facilitate each other.
- O-CSF: i and j are not connected.

We created an SSIM for SSCM practice implementation across the Bangladeshi food sector using these four symbols.

Step II:

Creating the Reachability Matrix: Create an initial reachability matrix by

transforming the SSIM. There are two entries in the binary matrix: 0 and 1. It also abides by the following guidelines:

Rule1: For every V, 1 for (i, j) and 0 for (j, i)

Rule2: For every A, 0 for (i, j) and 1 for (j, i)

Rule3: For every X, 1 for (i, j) and 1 for (j, i)

Rule4: For every O, 0 for (i, j) and 0 for (j, i)

As a result of adhering to these guidelines, we were able to develop both a preliminary reachability matrix (**Table 2**) and a decision matrix (**Table 3**), which take into account the transitive interactions between the various considerations. **Table 3** displays the results of the analyses conducted on the driving power and dependence power of each factor [31] [32]. The driving power, which is determined by adding up all of the consecutive components, is the force of one variable that influences another. Dependence is the total of all the values in **Table 3** column and represents the extent to which the variable and the other variable are impacted.

Table 2. First Reachability Matrix to Implement SCM Practices for the CSFs.

Variables	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	Driving Power
Sustainable Procurement Policy	1	1	1	0	0	0	0	0	0	1	0	0	0	0	1	5
Training and Capacity Building	1	1	0	0	0	1	0	1	0	1	0	0	0	0	1	6
Tax Reliefs of Certified Companies/ Financial Benefits	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2
Business Ethics	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Well-Defined Metrics for Sustainability Tracking	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	4
Enhancement of the Company Image	0	0	1	0	0	1	0	1	0	1	0	0	0	0	0	4
Collaboration with Multitier Suppliers	1	0	0	0	0	0	1	0	0	1	0	0	1	0	0	4
Good Return on Investment	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
Contribution From Profit and Resource	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	7
Business to Business Pressure	1	1	1	0	0	1	1	1	0	1	0	1	1	0	0	9
Safe and Quality Food	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Availability of Information and Transparency	0	1	1	0	0	1	1	0	0	0	1	1	1	0	1	8
Eliminate the Duplication	0	0	1	0	0	1	1	1	0	1	0	0	1	0	0	6
Resource Savings	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Quality Variation	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	4
Dependence Power	5	5	7	1	2	7	5	8	2	9	6	4	7	3	8	

Table 3. Final Reachability Matrix to Implement SCM Procedures for the CSFs.

Variables	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	Driving Power
Sustainable Procurement Policy	1	1	1	0	0	1*	1*	1*	0	1	1*	1*	1*	0	1	11
Training and Capacity Building	1	1	1*	0	0	1	1*	1	0	1	1*	1*	1*	0	1	11
Tax Reliefs of Certified Companies/Financial Benefits	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2
Business Ethics	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Well-Defined Metrics for Sustainability Tracking	1*	1*	1*	0	1	1*	1*	1	0	1*	1*	1*	1	0	1	12
Enhancement of the Company Image	1*	1*	1	0	0	1	1*	1	0	1	1*	1*	1*	0	1*	11
Collaboration with Multitier Suppliers	1	1*	1*	0	0	1*	1	1*	0	1	1*	1*	1	0	1*	11
Good Return on Investment	1*	1*	1*	0	0	1*	1*	1	0	1	1*	1*	1*	0	1*	11
Contribution From Profit and Resource	1*	1*	1*	0	0	1*	1*	1*	1	1	1	1	1	1	1	13
Business to Business Pressure	1	1	1	0	0	1	1	1	0	1	1*	1	1	0	1*	11
Safe and Quality Food	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Availability of Information and Transparency	1*	1	1	0	0	1	1	1*	0	1*	1	1	1	0	1	11
Eliminate the Duplication	1*	1*	1	0	0	1	1	1	0	1	1*	1*	1	0	1*	11
Resource Savings	1*	1*	1*	0	0	1*	1*	1*	O	1*	1*	1*	1*	1	1	12
Quality Variation	1*	1*	1*	0	0	1	1*	1	0	1*	1	1*	1*	0	1	11
Dependence Power	13	13	14	1	2	13	13	13	2	13	15	13	13	3	13	

Step III:

Cross-impact matrix multiplication (MICMAC) Analysis: The Cross-impact matrix multiplication method effectively correlates to the cross-impact matrix multiplication that is used for classification. The ability of measurements to be multiplied was the inspiration for the development of MICMAC. In this article, using it, we were able to evaluate the CSFs in terms of their execution and have a better understanding of the ISM-based model. It entails classifying the CSs that have been discovered according to their level of dependency and driving strength, both of which were assessed using the final reachability matrix [33]. MICMAC includes a graphic depiction of the factors based on their driving and reliance power in four clusters: autonomous, dependent, linkage, and independent. MICMAC also includes an analysis of the relationships between the elements.

Both the reliance power and the driving power of autonomous factors are rather low. Dependent variables have significant dependency power but poor driving power. Connective elements have a powerful reliance power as well as a powerful driving power. The driving power of independent forces is high, but the dependency power they exert is low. It is an illustration of the classification of the CSFs into these four zones for the purpose of assessing the application of SSCM practices.

3.3. MICMAC Model

The Cross-impact matrix multiplication (MICMAC) model in Figure 3 proves that there is no autonomous CSF, demonstrating the applicability of each of the fifteen CSFs under consideration to this investigation. Found CSFs 3 and 11 (tax reliefs of certified companies, financial benefits, and safe and quality food) to be dependent and CSFs 4, 5, 9, and 14 (business ethics, well-defined metrics for sustainability tracking, contribution from profit and resource, and resource savings) to be independent. CSFs 1, 2, 6, 7, 8, 10, 12, 13, and 15 (Sustainable Procurement Policy) Training and capacity building, enhancement of the company image, collaboration with multitier suppliers, good return on investment, business-to-business pressure, availability of information and transparency, elimination of duplication, and quality variation are all linked variables [33] [34].

Step IV:

Level Partitioning: An extracted each component's reachability and antecedent sets from the finished reachability matrix. The component itself, as well as any other variables that it may help enable, are included in the reachability set. The element in question, as well as any other potential variables that have an impact on it, make up the antecedent set. Calculating the intersection of these two sets for each CSFs is another one of the tasks. When the reachability and intersection set of a CSFs are identical to one another, that CSFs is said to be at level 1 [34]. After the first round, we threw away the level-1 CSFs and proceeded with the same technique until all of the levels of the CSFs were found. In this particular scenario, Safe and Quality Food is located at level 1 and constitutes the very pinnacle of the ISM hierarchy. The ISM hierarchy concludes with business ethics, which occupies the lowest level possible, as shown in Table 4.

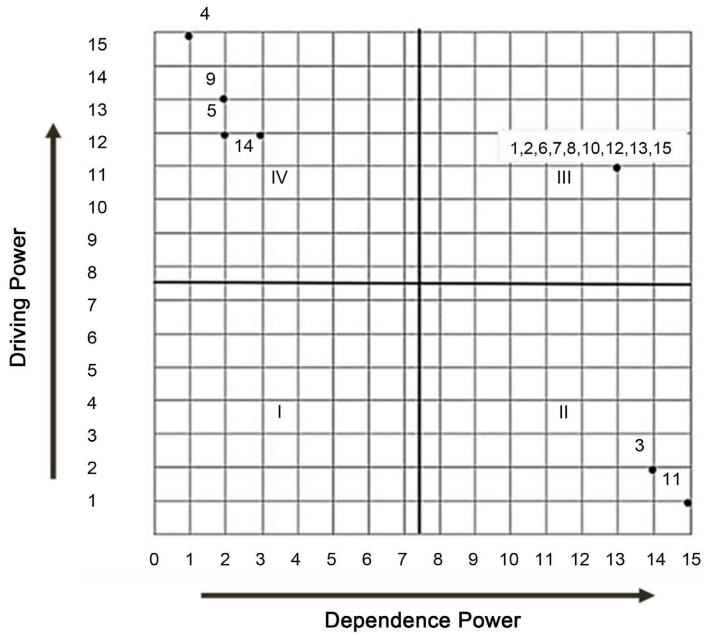

Figure 3. Driving Power and Dependence Power Diagram. I: Autonomous Variables; II: Dependent Variables; III: Linkage Variables; IV: Independent.

Table 4. Level-Partitioning results from the final reachability matrix.

Elements (Mi)	Reachability Set R (Mi)	Antecedent Set A (Ni)	Intersection Set R (Mi) ∩ A (Ni)	Level
1	1, 2, 6, 7, 8, 10,12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
2	1, 2, 6, 7, 8, 10,12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10,12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
3	3,	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	3,	2
4	4,	4,	4,	6
5	5,	4, 5,	5,	4
6	1, 2, 6, 7, 8, 10, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
7	1, 2, 6, 7, 8, 10, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
8	1, 2, 6, 7, 8, 10, 12, 13,15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
9	9,	4, 9,	9,	5
10	1, 2, 6, 7, 8, 10, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
12	1, 2, 6, 7, 8, 10, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
13	1, 2, 6, 7, 8, 10, 12, 13,15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
14	14	4, 9, 14,	14,	4
15	1, 2, 6, 7, 8, 10, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3
12	1, 2, 6, 7, 8, 10, 12, 13,15,	1, 2, 4, 5, 6, 7, 8, 9, 10,12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	3

Step V:

Diving Reachability Matrix: Dividing up the reachability matrix into its several layers the process of processing the reachability matrix results in the formation of several tiers of the structural model. It consists of a multitude of subsidiary stages. A reachability set, also known as Set R, is created for each variable or factor based on the rows of the matrix. This set is constructed in such a way that it has all the column numbers that indicate the factor stated in the affected counterpart of the system. Alternatively, each variable or factor also has an antecedent set, or Set A, which is generated using the matrix's columns. This set is constructed in such a way that it contains the entire row numbers that indicate the factor stated in the influencing counterpart of the system. These influential and affected parameters are read for the cell values that are equal to 1. Once again, the combination of set R and set A may be found by using the equation (Set R) (Set A) = Set RA = Set C as shown in Table 5. A comparison is made between Set C and Set A for each variable, and the variables for which the compared sets are found to be identical are removed from consideration. The variables are taken out of the equation as a result of this elimination. The results of this elimination are then applied to each of the added sets of variables. Performing this action will cause all of the remaining variables' reachability sets and antecedent sets to be updated. The procedure is carried out once again during the subsequent iteration to get rid of all the variables. All of the elements that were eliminated during a given iteration are stacked up to generate a collection of iterations after each one. Each iteration represents a level of hierarchical structure

in the overall model, and the variables in that iteration are partitioned in a manner that corresponds to that level.

Step VI:

By rearranging each variable in the reachability matrix according to the level it occupies, one may create a canonical representation of the removal as shown in Table 6 and categorization of variables into distinct levels described before. The outcome is a matrix that is the same as either the lower triangular matrix or its transpose is represented in Figure 4.

Table 5. Level partitioning iterations.

Elements (Mi)	Reachability Set R (Mi)	Antecedent Set A (Ni)	Intersection Set R (Mi) ∩ A (Ni)	Level
1	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
2	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
3	3, 11,	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	3,	
4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,	4,	4,	
5	1, 2, 3, 5, 6, 7, 8, 10, 11, 12, 13, 15,	4, 5,	5,	
6	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
7	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
8	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
9	1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14,15,	4, 9,	9,	
10	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
11	11,	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,	11,	1
12	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10,12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
13	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10,12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
14	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 15,	4, 9, 14,	14,	
15	1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15,	1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	1, 2, 6, 7, 8, 10, 12, 13, 15,	
		1 2 3 4 5 6		

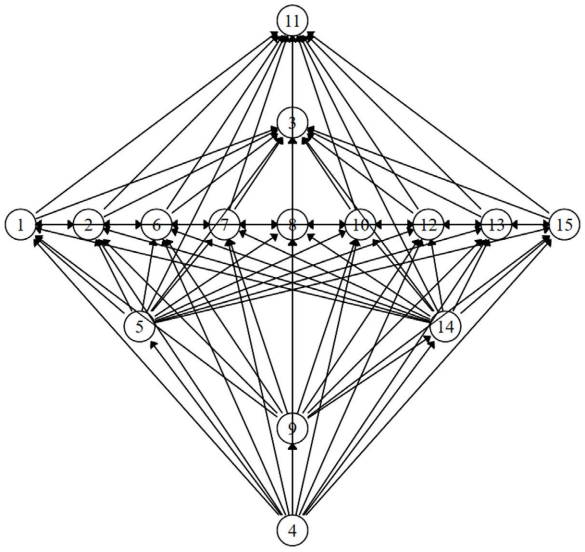

Figure 4. Model digraph.

Table 6. Conical Matrix (CM).

Variables	11	3	1	2	6	7	8	10	12	13	15	5	14	9	4	Driving Power	Level
11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
1	1*	1	1	1	1*	1*	1*	1	1*	1*	1	0	0	0	0	11	3
2	1*	1*	1	1	1	1*	1	1	1*	1*	1	0	0	0	0	11	3
6	1*	1	1*	1*	1	1*	1	1	1*	1*	1*	0	0	0	0	11	3
7	1*	1*	1	1*	1*	1	1*	1	1*	1	1*	0	0	0	0	11	3
8	1*	1*	1*	1*	1*	1*	1	1	1*	1*	1*	0	0	0	0	11	3
10	1*	1	1	1	1	1	1	1	1	1	1*	0	0	0	0	11	3
12	1	1	1*	1	1	1	1*	1*	1	1	1	0	0	0	0	11	3
13	1*	1	1*	1*	1	1	1	1	1*	1	1*	0	0	0	0	11	3
15	1	1*	1*	1*	1	1*	1	1*	1*	1*	1	0	0	0	0	11	3
5	1*	1*	1*	1*	1*	1*	1	1*	1*	1	1	1	0	0	0	12	4
14	1*	1*	1*	1*	1*	1*	1*	1*	1*	1*	1	0	1	0	0	12	4
9	1	1*	1*	1*	1*	1*	1*	1	1	1	1	0	1	1	0	13	5
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	6
Dependence Power	15	14	13	13	13	13	13	13	13	13	13	2	3	2	1		
Level	1	2	3	3	3	3	3	3	3	3	3	4	4	5	6		

3.4. Digraph

This diagram (Figure 4) is transformed into the Interpretative structural modeling (ISM)-based model. The Interpretative structural modeling (ISM) hierarchy model also ensures that no issue at a given level will assist any challenge at a higher level.

Step VII:

As previously discussed, converting a matrix into row canonical form, sometimes referred to as row reduced echelon form, "reduced row-echelon" form, or Gauss-Jordan form or reduced conical matrix as shown in Table 7. This is done by applying the Gaussian elimination approach to transform the matrix into echelon form.

4. Results and Discussion

4.1. Results

The issue of sustainability is now of international importance. Food manufacturers in Bangladesh need to use SSCM techniques if they want to compete successfully in both the local and global markets. Since certain foreign suppliers and clients of Bangladesh's food manufacturers and process industries have started implementing sustainability measures, this will undoubtedly lead to the wider spread of SSCM practices across Bangladesh's food sector. However, businesses

will be unable to pursue a sustainable supply chain in the right way unless they first get a grasp of the critical success factors. This research set up fifteen CSFs based on the judgments of specialists. The fifteen critical success factors were then used as inputs to an interpretative structural modeling (ISM)-based model, and subsequently, the Cross-impact matrix multiplication (MICMAC) analysis was used to make predictions. With sustainable assistance, the most crucial CSFs were isolated and prioritized. By using Interpretative structural modeling (ISM), we were able to identify the interrelationships between these critical success factors. Finally, managers may benefit from MICMAC at the operational and strategic levels by taking the right measures. The following are some of our most important discoveries:

Table 7. Reduced Conical Matrix (RCM).

Variables	11	3	1	2	6	7	8	10	12	13	15	5	14	9	4	Driving Power	Level
Safe and Quality Food	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Tax Reliefs of Certified Companies/Financial Benefits	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Sustainable Procurement Policy	0	1	1	1	1*	1*	1*	1	1*	1*	1	0	0	0	0	11	3
Training and Capacity Building	0	1*	1	1	1	1*	1	1	1*	1*	1	0	0	0	0	11	3
Enhancement of the Company Image	0	1	1*	1*	1	1*	1	1	1*	1*	1*	0	0	0	0	11	3
Collaboration with Multitier Suppliers	0	1*	1	1*	1*	1	1*	1	1*	1	1*	0	0	0	0	11	3
Good Return on Investment	0	1*	1*	1*	1*	1*	1	1	1*	1*	1*	0	0	0	0	11	3
Business to Business Pressure	0	1	1	1	1	1	1	1	1	1	1*	0	0	0	0	11	3
Availability of Information and Transparency	0	1	1*	1	1	1	1*	1*	1	1	1	0	0	0	0	11	3
Eliminate the Duplication	0	1	1*	1*	1	1	1	1	1*	1	1*	0	0	0	0	11	3
Quality Variation	0	1*	1*	1*	1	1*	1	1*	1*	1*	1	0	0	0	0	11	3
Well-Defined Metrics for Sustainability Tracking	0	0	1*	1*		1*	1*	1	1*	1*	1	1	1	0	0	12	4
Resource Savings	0	0	1*	1*		1*	1*	1*	1*	1*	1*	1	0	1	0	12	4
Contribution From Profit and Resource	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	13	5
Business Ethics	0	0	0	0	0	0	0	0	0	0	0		1 0		1 1	15	6
Dependence power	1 5	14		13	1313	13	13	13	13	13	13		2 3		1		
Level	1	2	3	3	3	3	3	3	3	3	3		4 4		6		

Technique for Order of Preference by Similarity to Idea Solution (TOPSIS) is a multi-criterion decision-making (MCDM) ranking approach that selects, from a limited pool of candidates, the one that is closest to the ideal answer and farthest from the negative ideal solution [35] [36]. The best criteria and sub-criterion values (A+) make up the positive ideal solution, while the worst attribute values (A) characterize the worst-case situation. To rapidly determine the optimal solution, TOPSIS computes a proximity coefficient for each option. In its original form, the technique relied on the decision-makers' own subjectively assigned weights to various criteria. We also need to rank the success factors after assigning weights to them. Use the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) technique as a result. Here, the industrial specialists determined the weights of the various criteria and elements using established methods. And after the closeness coefficient has been established, we ascertained the rank that the critical success factors evaluate.

Here, business ethics is ranked first, well-defined metrics for evaluating sustainability are ranked second, but two (02) factors—resource savings and contribution from profit and resources—have occurred to rank third. Which specialists have chosen resource savings from?

Business ethics, Well-defined Metrics for Sustainability tracking and Resource savings are the top-ranked CSFs. In Bangladesh, there are fewer ethical issues and work, as it is an emerging economy. As a result, there is limited engagement with eco-friendly technology because there are less well-defined metrics.

Here, business ethics holds the 1st position, while the well-defined metrics for sustainability tracking hold the 2nd position, but for the 3rd position, two (02) factors—revenue savings, contribution from profit, and resource—have taken place. From which specialists have chosen resource savings. Business ethics, well-defined metrics for sustainability tracking, and The highest priority critical success factors are resource savings. Because Bangladesh is a developing economy, there are fewer ethical problems at work. Consequently, there is little use of environmentally beneficial technologies because there are less well-defined metrics. Based on research, managers will be better able to narrow in on the most crucial elements of a sustainable supply chain. They will be able to narrow in on the specific areas where they need to concentrate most to successfully implement SSCM. Thus, the findings will contribute to the paradigm shift toward sustainability now taking place in Bangladesh's food business. Strategic considerations should be given to those variables with strong driving power, while those with high reliance power should focus on performance and outcomes. If the independent elements are constantly enhanced, businesses will see improved performance. By specializing in the critical success factors, businesses may get an edge in the market by producing goods with fewer negative impacts on the environment. To stay competitive, other businesses will be under pressure from consumers and other interested parties to embrace these same tactics.

4.2. Final Model of Interpretative Structural Modeling (ISM) (Figure 5)

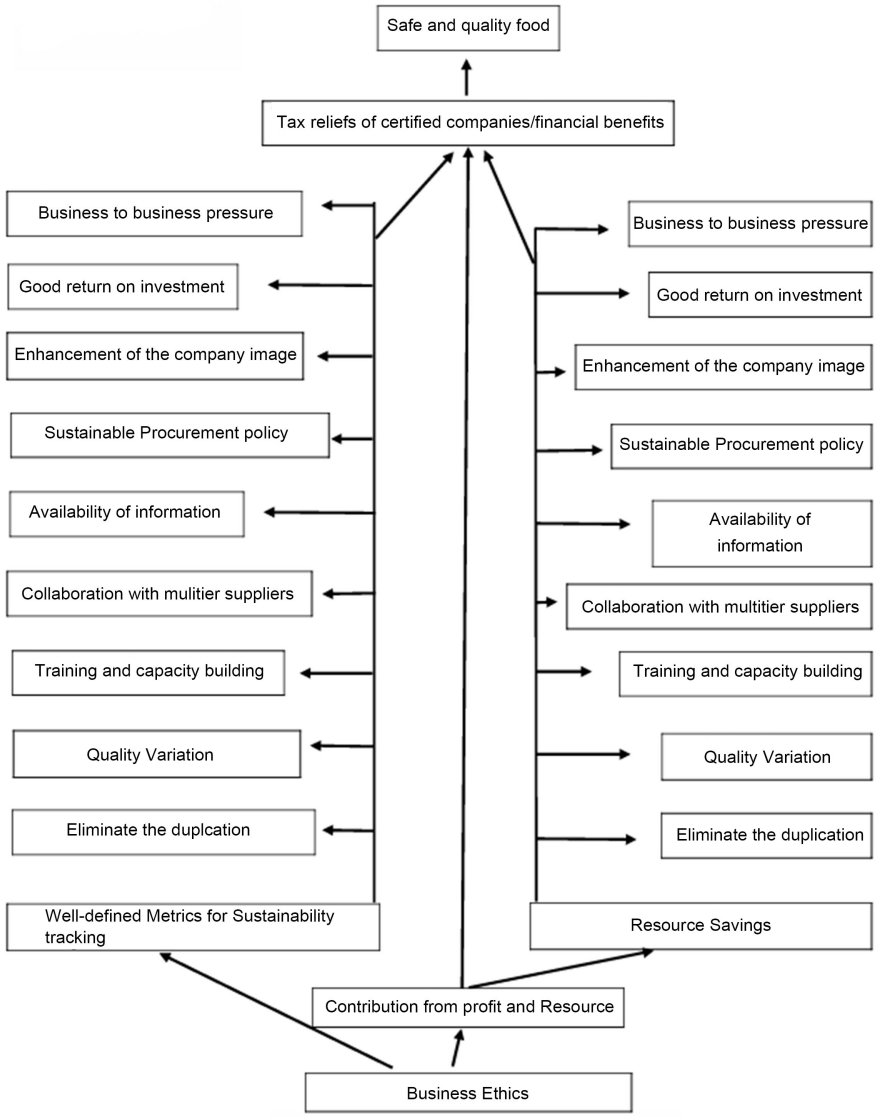

Figure 5. ISM Model for SFSCM industry.

4.3. Technique for Order of Preference by Similarity to Idea Solution (TOPSIS)

Critical success factors have been identified and ranked using a variety of techniques. The technique for order of preference by similarity to ideal solution (TOPSIS) is a quantitative multi-criteria decision-making procedure that applies a full and complete set of information on criteria.

Managers may easily put TOPSIS to use since it does not need much specialized training or understanding. The TOPSIS method investigates each potential outcome and selects the one that is least distant from the ideal answer while still being preferable [37].

Analyzing the ISM-MICMAC, the best 10 critical success factors are being

collected and established into the TOPSIS method. In the TOPSIS method, the criteria are (environment, social impact, company profit) and the critical success factors are shown in Table 8. Corporate specialists provide these values. The values for this factor are to be taken as the standard unit's box.

Step I:

Each value is normalized by being changed to where m is the dataset's row count and n is its column count. The researchers are changing along the rows, while j changes along the column, as shown in Table 9.

Table 8. Collected Data from Experts.

	Non Beneficiary	Beneficiary	Beneficiary
Weightage	0.3	0.5	0.2
Success Factors	Environment	Social Impact	Company Profit
Business Ethics	4	5	5
Contribution from profit and Resource	5	5	5
Resource Savings	5	5	5
Well-defined Metrics for Sustainability tracking	3	4	4
Quality Variation	5	3	4
Eliminate the Duplication	2	2	2
Availability of Information and Transparency	4	3	5
Business to Business Pressure	5	4	4
Good Return on Investment	4	4	4
Collaboration with Multitier Suppliers	3	3	3

Table 9. Normalization.

Success Factors	Environment	Social Impact	Company Profit
Business Ethics	0.306785996	0.402911482	0.375823014
Contribution from Profit and Resource	0.383482494	0.402911482	0.375823014
Resource Savings	0.383482494	0.402911482	0.375823014
Well-defined Metrics for Sustainability Tracking	0.230089497	0.322329186	0.300658411
Quality Variation	0.383482494	0.241746889	0.300658411
Eliminate the Duplication	0.153392998	0.161164593	0.150329206
Availability of Information and Transparency	0.306785996	0.241746889	0.375823014
Business to Business pressure	0.383482494	0.322329186	0.300658411
Good Return on Investment	0.306785996	0.322329186	0.300658411
Collaboration with Multitier Suppliers	0.230089497	0.241746889	0.225493808

Equation for Normalization:

$$\bar{X}_{ij} = \frac{X_{ij}}{\sqrt{\sum_{i=1}^{n} X_{ij}^2}} \tag{1}$$

Step II:

Calculating the Euclidean distance for each row from the ideal worst and ideal best values, as well as the ideal best and worst values First, figure out the ideal best and ideal worst values: Now that this has happened, we must determine if there has been a (+) or (−) impact. If a column has a (+) effect, the ideal best value for that column is its maximum value, and its (−) impact is its ideal worst value.

For components in all rows from the ideal best to the ideal worst, we now need to determine their Euclidean distance.

Calculate the Euclidean distance from the ideal best.

$$S_i^+ = \left[\sum_{j=1}^{m} \left(V_{ij} - V_j^+\right)^2\right]^{0.5} \tag{2}$$

Calculate the Euclidean distance from the ideal worst.

$$S_i^- = \left[\sum_{j=1}^{m} \left(V_{ij} - V_j^-\right)^2\right]^{0.5} \tag{3}$$

Step III:

Technique for Order of Preference by Similarity to Idea Solution (TOPSIS) score and ranking calculation by using the TOPSIS score for each row based on the distance positive and distance negative that are now available.

Calculate TOPSIS Score.

$$P_i = \frac{S_i^-}{S_i^+ + S_i^-} \tag{4}$$

Now order is based on the TOPSIS score, where the greater the score, the higher the rank dataset will be ranked as shown in Table 10.

4.4. Discussion

The current research identified key success elements while implementing sustainable food supply chain management by studying the literature, speaking with industry professionals, polling them, and establishing a bi-level criterion hierarchy. Sustainability is the foundational goal of the hierarchy with environmental, social, and company profit.

Finally, the MCDM experiment was conducted to determine 15 important success factors in the ruling elite of a sustainable food supply chain. The experts were requested to provide responses to the inquiries. The ISM-MICMAC and TOPSIS methods were used in conjunction with expert opinions. Since these methods might yield different ranks, the results revealed which factor is more important. Resource savings and safe and quality food were found to be the most important environmental factors.

Table 10. Ranking the CSFs.

Success Factors	Environment	Social Impact	Company Profit	Si+	Si−	Pi	Rank
Business Ethics	0.092035799	0.201455741	0.075164603	0.046018	0.131048	0.740109	1
Contribution from Profit and Resource	0.115044748	0.201455741	0.075164603	0.069027	0.129013	0.651449	3
Resource Savings	0.115044748	0.201455741	0.075164603	0.069027	0.129013	0.651449	3
Well-defined Metrics for Sustainability Tracking	0.069026849	0.161164593	0.060131682	0.048773	0.097545	0.666667	2
Quality Variation	0.115044748	0.120873445	0.060131682	0.107164	0.050273	0.319319	9
Eliminate the Duplication	0.046017899	0.080582296	0.030065841	0.129013	0.069027	0.348551	8
Availability of Information and Transparency	0.092035799	0.120873445	0.075164603	0.092796	0.064705	0.410821	7
Business to Business Pressure	0.115044748	0.161164593	0.060131682	0.081327	0.086008	0.513989	5
Good Return on Investment	0.092035799	0.161164593	0.060131682	0.062984	0.089033	0.585677	4
Collaboration with Multitier Suppliers	0.069026849	0.120873445	0.045098762	0.089033	0.062984	0.414323	6
V+	0.046017899	0.201455741	0.075164603				
V−	0.115044748	0.080582296	0.030065841				

Moreover, sustainable procurement policy, training and capacity building, tax reliefs for certified companies and financial benefits, enhancement of the company image, and business-to-business pressure were verified as the most crucial social impact factors.

Business ethics, well-defined metrics for sustainability tracking, collaboration with multitier suppliers, good return on investment, contribution from profit and resource, availability of information and transparency, elimination of duplication, and quality variation were the most important company profit factors.

According to the hierarchy, business ethics, well-defined metrics for sustainability tracking, and contribution from profit, resource, and resource savings had the largest weights among those factors.

Found six levels from the Level Partitioning Iterations Table 10, with CSFs 4 at level 1, CSFs 9 at level 2, CSFs 5 and 14 at level 3, CSF 15, 13, 12, 10, 8, 7, 6, 2, 1 at level 4, CSF 3 at level 5, and CSF 11 at level 6. After an ISM-based model by first placing each CSF at its appropriate level and then using the Final Reachability Matrix (FRM) table to illustrate the relationships between the CSFs. Additionally, six levels were determined using the Level Partitioning Iterations Table 10, with CSFs 4 at level 1 and CSFs 9 at level 2.

In practice, MICMAC is equivalent to the application of cross-impact matrix multiplication to the classification process. The ability of measurements to be multiplied was the inspiration for the development of MICMAC. In this study, we made use of it to get deeper insight into the ISM-based model we were working with as well as to assess the CSFs from an implementation point of view. It entails categorizing the CSFs that have been discovered according to their level of reliance and driving power, both of which were set up in the final

matrix. At level 2, CSFs 5 and 14 at level 3, CSF 15, 13, 12, 10, 8, 7, 6, 2, 1 at level 4, CSF 3 at level 5, and CSF 11 at level 6. After placing all of the CSFs at their level, we depicted a relationship between the CSFs as per the Final Reachability Matrix (FRM) table, resulting in an ISM-based model. MICMAC involves creating a graphical depiction of the components depending on their level of driving and reliance power. These factors are then grouped into one of four categories: autonomous, dependent, linkage, and independent.

Both the reliance power and the driving power of autonomous factors are rather low. Dependent variables have significant dependency power but poor driving power. Connective elements have a powerful reliance power as well as a powerful driving power. Independent variables have significant driving power but minimal dependency power. The MICMAC picture depicts the classification of the CSFs into these four zones so that SSCM techniques may be evaluated and implemented.

The MICMAC Figure reveals that there is no independent CSF, which proves that all fifteen of the CSs that were taken into consideration are applicable in this research. CSFs 3 and 11 (tax reliefs for certified companies, financial advantages, and safe and quality food) were determined to be reliant on one another. CSFs 4, 5, 9, and 14 (business ethics, well-defined metrics for sustainability monitoring, contribution from profit and resource, and resource savings) must be independent of one another.

And the connecting factors are CSFs 1, 2, 6, 7, 8, 10, 12, 13, and 15 (sustainable procurement policy, training and capacity building, improving the company image, working with multitier suppliers, good return on investment, business-to-business pressure, transparency and information availability, removing duplication, and quality variation). Since they pave the path for the efficient and successful implementation of linking and dependent SFs, independent CSFs are viewed as having a high priority for adoption in SSCM procedures. As a result, implementing independent CSFs should be given high importance.

In Sustainable Development Goals (SDGs):

We found the following similarities between our factors and the sustainable development goals (SDGs).

1 = No Poverty

2 = Zero Hunger

8 = Decent Work and Economic Growth

9 = Industry, Innovation and Infrastructure

12 = Responsible Consumption and Production

15 = Life on Land

If the mentioned success factors are implemented, the sustainable development goals as shown in **Figure 6** will be achieved because this research work is theoretically and practically based on the sustainable food supply chain. A critical success factor plays a crucial role in the sustainable development of the food supply chain management, especially in No Poverty (SDG 1), Zero Hunger (SDG 2), Decent work and Economic Growth (SDG8), Industry, Innovation and

Figure 6. Sustainable Development Goals (SDGs).

Infrastructure (SDG 9), Responsible Consumption and Production (SDG 12), and Life on land (15) [38] [39]. And the main theme of sustainable development goals is the elimination of poverty in all its forms everywhere. Achieving food security, improving nutrition, and promoting sustainable agriculture promoting inclusive and sustainable economic growth, employment, and decent work for all ensuring sustainable consumption and production patterns. Protecting, restoring, and promoting sustainable use of terrestrial ecosystems, managing forests sustainably, combating desertification, and halting and reversing land degradation and biodiversity loss secure a prosperous future, harness economic growth and development, and foster social solidarity across the sustainability of foods and nutrition.

5. Conclusions

Organizations can gain a competitive edge and good commercial growth by pursuing sustainability. It goes without saying that putting SFSCM techniques into reality is a difficult and complex process that necessitates a careful analysis of the sustainability index throughout the whole supply chain. A transparent approach is necessary for sustainability evaluations because of the subjectivity of the sustainability index.

Because of the remarkable increase in resource use over the past 200 years, the environment has affected Bangladesh's economy. As of right now, Bangladesh's economy is ranked 41st (out of 41) in the world. Therefore, it is imperative to incorporate sustainability into supply chain management, particularly in the context of the food supply chain.

Our research underlines the importance of critical success factors (CSFs) for successfully implementing sustainable food supply chain management (SFSCM). Factors like business ethics, well-defined sustainability metrics, collaborating with suppliers across tiers, return on investment, profit and resource contribution, information availability and transparency, eliminating duplication, quality

variation, sustainable procurement policies, training and capacity building, tax reliefs for certified companies, financial incentives, enhancing corporate image, peer pressure, resource savings, and safe, quality foods are vital to comprehend. It is crucial that the food business employ SFSCM in emerging nations like China and India, where over half of the world's population resides. SFSCM implementation will be aided by Supply food identification. The objective of this work is to indicate the importance and correlations of SFs for implementing SFSCM with the help of the ISM-MICMAC and TOPSIS approaches.

The ISM-MICMAC-MICMACPSIS methods rank the success factors in priority order and then divide them into groups based on what precipitated them. The findings of this research demonstrate that the quality and safety of food are important factors and have a direct effect on other factors. To make the SFSCM more adequate, legislators, managers, and experts need to pay attention to this factor. In this work, we suggest a structural basis for evaluating 15 (fifteen) SFs in SFSCM. The proposed model has its own flaws, so care should be taken when judging how well SFSCM is implemented.

While the Sustainable Development Goals aim to transform the world towards reduced poverty, inequality, and environmental impact, sustainable food supply chain management is key to achieving those goals over the long term for processed or semi-processed foods. There may be some human judgment errors or subjective biases as well.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix

Critical success factors of a sustainable food supply chain management: An Emerging Economy perspective.

In today's corporate world, attaining sustainability and striking a balance between social responsibility, environmental preservation, and economic success are becoming increasingly important in addition to cutting costs to boost profits. Achieving sustainability is the driving force behind these variables. The purpose of this study is to create a structured analysis of the essential elements needed to successfully execute sustainable food supply management in Bangladesh.

Respondents Name:

Phone Number/Mail:

Company Name:

Designation:

Directions: Please mark the box to the right of each item in the poll to indicate your level of agreement or disagreement with the statement. You won't be identifiable, and your responses will be treated with the utmost confidentiality.

Scale 5: Strongly Agree (Suggests that the character is consistently present)

Scale 4: Agree (Denotes a frequent manifestation of the character)

Scale 3: Neutral (Denotes that the character appears sometimes)

Scale 2: Disagree (Suggests that the character is not often displayed)

Scale 1: Strongly Disagree (Suggests that the character is not shown at all)

In your opinion, please rate this Critical Success Factors considering their environmental, social and economic/profit impacts:

	CSFs	Environment (Out of 1-5)	Social Impact (Out of 1-5)	Company Profit (Out of 1-5)
01	Is the Sustainable Procurement Policy used properly in your organization?			
02	Is a well-defined metric for sustainability tracking policy used properly in your organization?			
03	Are tax reliefs for certified companies and financial benefits maintained properly?			
04	What effect does business ethics have on the company?			
05	How are training and capacity-building used?			
06	Enhancement of the company image is essential for your company.			
07	Collaboration with multitier suppliers is very useful for companies.			
08	Good return on investment. How do you look for the company?			
09	What kind of contribution to profit and resources do you need?			
10	How do you maintain business-to-business pressure, and what is its outcome?			
11	How much priority does the company give to safe and quality foods?			
12	Lack of information and transparency—what effect does it have?			
13	Eliminating duplication should be strictly observed.			
14	How do you make resource savings a priority in your company?			
15	How are you affected by the change in quality variation?			

The three criteria for critical success factors are mentioned above. You, as an expert, would rate the above-included criteria out of 1 (0.1 - 0.9)? (Ans.)

Environment:

Social Impact:

Company Profit: